

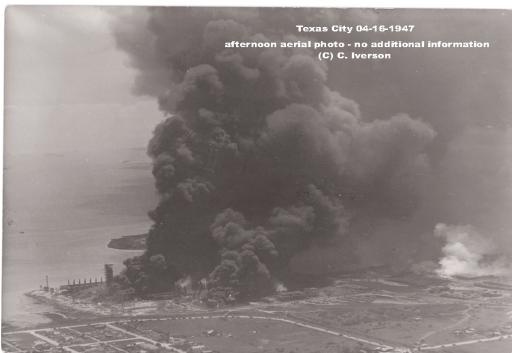
Together With



Winter 2011

A PUBLICATION OF THE TENNESSEE DEPARTMENT OF LABOR & WORKFORCE DEVELOPMENT

The Texas City Disaster



The incident began around 8:00 AM on April 16, 1947, when a fire on board the French-registered vessel SS Grandcamp, docked in the Port of Texas City, Texas, was discovered. The fire detonated approximately 2,300 tons of ammonium nitrate, and the resulting chain reaction of fires and explosions killed at least 581 people. These events also triggered the first ever class action lawsuit against the United States government, under the then-recently enacted Federal Tort Claims Act (FTCA), on behalf of 8,485 victims.

The SS Grandcamp, along with another ship in the harbor, the SS High Flyer, was loaded with ammonium nitrate fertilizer on its way to farmers in Europe to assist in the rebuilding after World War II. Shortly after the fire was discovered, the fire attracted a crowd of spectators along the shoreline, who believed they were a safe distance away. They noted that the water around the ship was already boiling from the heat, and the water touching the hull of the ship was vaporized into steam. The cargo hold and deck began to bulge as the forces increased inside. At 9:12 AM, the ammonium nitrate reached an explosive threshold and the vessel detonated, causing great destruction and damage throughout the port.

The magnitude of the disaster is described by the following:

- The blast sent a 15-foot wave that was detectable nearly 100 miles off the Texas shoreline
- The blast leveled nearly 1,000 buildings on land
- The explosion destroyed the nearby Monsanto Chemical Company plant and resulted in ignition of refineries and chemical tanks on the waterfront.
- The Grandcamp's anchor was hurled across the city

Carbon Monoxide Hazards

As the cold winter air moves into Tennessee, employers begin to close up buildings to protect against the temperatures, wind, rain, and snow. However, when the building is closed up, not only is the cold air kept out but dangerous air contaminants may be kept in. If gas and propane-powered equipment is used inside, deadly carbon monoxide can build up.

Carbon monoxide is a colorless, odorless, gas produced by the incomplete combustion of carbon-containing substances. It is a poison. It is emitted through the exhaust of gas and propane-fueled equipment, including furnaces and other heating appliances. When carbon monoxide is inhaled, it combines with oxygen-carrying substances in the blood and prevents normal transport of oxygen to the cells and tissues throughout the body. This can result in serious health effects and even death.

Tennessee OSHA has established eight-hour time weighted averages for exposure to carbon monoxide. For employees working in general industry settings, the limit is 35 parts of carbon monoxide per million parts of air; for those in the construction trades, the limit is 50 parts per million.

To help ensure that employees remain exposed below the limits, the employer should do the following:

- Ensure that gas and propane-fueled equipment is well ventilated and work areas have sufficient dilution ventilation
- Limit employee exposure to equipment that may emit carbon monoxide
- Conduct periodic air monitoring for carbon monoxide with calibrated test equipment
- Train employees on the hazards of carbon monoxide poisoning and how to identify the symptoms of exposure.

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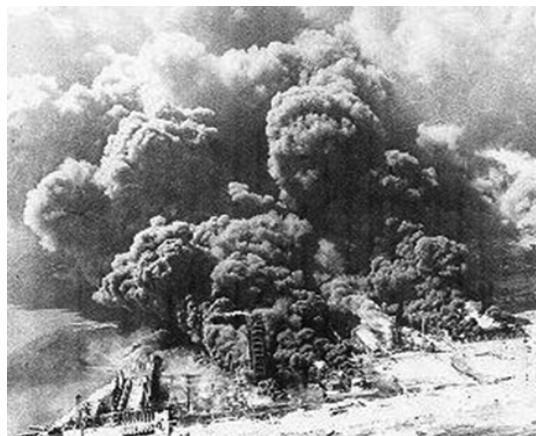
Inquiries regarding
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- Sightseeing airplanes flying nearby had their wings shorn off, forcing them out of the sky
- Ten miles away people in Galveston were forced to their knees; windows were shattered in Houston 40 miles away
- People felt the shock 100 miles away in Louisiana
- The explosion blew almost 6,350 tons of the ship's steel into the air, some at supersonic speed
- Official casualty estimates came to a total of 567, including all the crewmen that remained onboard the Grandcamp, but many victims were burned to ashes or literally blown to bits, and the official total is believed to be an underestimate.
- The entire volunteer fire department of Texas City was killed in the initial explosion on the docks while fighting the shipboard fire

The Grandcamp's explosion triggered perhaps the worst industrial disaster, resulting in the largest number of casualties, in American history.



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OSHA Fact

Standards Improvement Project

Federal OSHA recently revised some of their standards under the Standards Improvement Project. Those changes were adopted by Tennessee and will have an effective date of February 28, 2012.

While the changes are relatively minor, Subparts E, I, J, T and Z of 29 CFR Part 1910 were updated, as well as corresponding paragraphs of Parts 1926 (Construction), 1915 (Shipyard Employment), and 1928 (Agriculture). The changes mostly reflect revising of outdated references, definitions, and wording clarifications.

The most significant change was to the personal protective equipment (PPE) standard where the requirement for training certification records for general PPE was removed. Training certification for PPE was always one of TOSHA's most cited standards year after year. The elimination of this requirement removes a records burden from the employer.

The requirement to train employees on the use of PPE remains, however; the only requirement removed was to develop and maintain the document identified as the certification of training. Also, the requirement to develop and maintain a certification document for the PPE hazard assessment of the workplace remains.

A similar requirement for certification of training was removed from the standard on occupational exposure to cadmium in general industry and construction.

Make Your Plans Now to Attend the 35th Annual Tennessee Safety and Health Congress

*Gaylord Opryland Hotel and Convention Center
in Nashville*

July 22-25, 2012

Safety and health professionals throughout the southeast will be meeting for workshops, safety and health information sharing, legislative updates, work, and some fun on the side.

Features of the 2012 Congress

- Workshops on occupational safety, occupational health, and environmental safety
- Governor Bill Haslam has been invited to address the Congress on the opening day
- Legislative updates on occupational safety and health issues from ASSE Washington liaison
- The Mayberry Deputy
- Large exhibition area with more than 100 vendors
- Opportunities to win prizes, trips, etc.

Look for the 2012 Information and Registration brochure to be mailed in March, 2012. Exhibitor contracts will be available in January, 2012.

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and American Society of Safety Engineers

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Four employees were hospitalized after a crane boom fell on them. The employees were members of a crew assigned to make repairs on a bridge that had been damaged during heavy rains two months earlier. The employees removed several slabs of concrete on the eastbound lane in order to install three pilings that would help support the bridge after the work was completed. They used a 48-ton crane to move the concrete slabs. When they were sliding the first section of concrete slab back into place, the wire rope supporting the boom of the crane broke, causing the boom to come down upon the four employees.



To Prevent Such an Incident:

1. Instruct each employee in the recognition and avoidance of unsafe work conditions, and the regulations applicable to the work environment to control or eliminate any hazards or other exposure to illness or injury.
2. Inspect crane and derrick machinery and equipment prior to and during each use to ensure safe operating conditions.
3. Ensure that thorough annual inspections of hoisting machinery are performed by a competent person or by a government or private agency recognized by the U.S. Department of Labor.
4. Take wire ropes were not taken when as much as one-third of the original diameter of outside individual wires is worn or when rope is damaged, resulting in distortion of the rope structure.
5. Ensure that wire rope safety factors are in accordance with American National Standards Institute B30.5-1968 or SAE J959-1966.
6. Barricade accessible areas within the swing radius of the rear of the rotating superstructure of cranes in such a manner as to prevent employees from being struck or crushed by the crane.
7. Ensure that all crawler, truck or locomotive cranes in use meet the applicable requirements for design, inspection, construction, testing, maintenance, and operation as prescribed in the ANSI B30.5-1968, by using cribbing under the out riggers of a crane which are sitting on infirm foundations of back fill gravel.